Karen R. Newlon
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## Education

M. S. Biological Sciences, 2005. Department of Ecology, Montana State University, Bozeman, MT
Thesis: *Demography of Lewis's Woodpecker, breeding bird densities, and riparian aspen integrity in a grazed landscape*.

B. A. Biology, 1997. Hiram College, Hiram, OH

## Experience

Ecologist/Project Manager. Montana Natural Heritage Program, Helena, MT. May 2008-present. Establish a network of reference herbaceous wetlands in Montana to refine and validate assessment methodologies, assess wetland spatial and temporal variation, and identify new or additional indicators of wetland integrity. Conduct vegetation surveys in wetland and associated upland ecosystems. Integrate data into spatial and tabular databases. Develop proposals, reports, and information summaries. Lead and manage projects.

Technical science writer. Center for Invasive Plant Management, Montana State University, Bozeman, MT. Oct 2007-Mar 2008. Researched and synthesized literature to develop module content following instructional design strategies for online learning. Applied scientific concepts and principles to management for natural resource professionals, educators, and practitioners.

Ecologist. USFWS-Red Rock Lakes NWR, Lima, MT. May 2005-Oct 2007.
Completed Refuge vegetation map to the association level according to the National Vegetation Classification Standard. Designed and implemented a landbird monitoring program throughout Refuge habitats using distance sampling techniques with a focus on grassland and sagebrush shrubsteppe bird species. Created and managed landbird monitoring database using Microsoft Access. Analyzed landbird monitoring data using Program Distance, Program Presence, Program MARK, and R. Developed Refuge management alternatives, environmental consequences, biological goals, objectives, rationale, and strategies for species of conservation concern for Comprehensive Conservation Plan. Produced reports and project summaries. Responsible for creating and managing Refuge spatial data. Cooperated with state, federal agencies, and non-governmental organizations as well as private landowners in the Centennial Valley. Trained field assistants in bird identification, plant identification, GPS, GIS, and Microsoft Access database creation and data entry.

Research assistant. US Forest Service-Rocky Mountain Research Station, Bozeman, MT. April 2002-May 2005. Designed and implemented a study of breeding bird-habitat relationships in aspen riparian woodlands of south-central Idaho. Conducted nest searching and monitoring of Lewis's Woodpecker nests and point transect surveys for songbirds. Conducted vegetation measurements. Measured aspen stand regeneration and cored aspen trees to assess age dynamics. Analyzed data using statistical software (Program Distance, SAS). Hired, trained, and supervised field crew. Maintained remote field camp. Produced reports and project summaries.

Wildlife technician. USFWS-Nisqually National Wildlife Refuge, Olympia, WA. Mar 2001-Feb 2002. Conducted point count visits and area searches for breeding and overwintering birds. Conducted vegetation and wildlife inventories for newly acquired Refuge properties. Conducted shorebird and waterfowl surveys.

Biological science technician. US Forest Service-Rocky Mountain Research Station, Boise, ID. May-Sep 2000. Conducted nesting surveys for cavity-nesting birds in central Idaho. Established point count stations and conducted point count visits. Measured vegetation at nest sites and randomly selected points.

Research assistant. Montana Cooperative Wildlife Research Unit, Missoula, MT. Nov 1999-Mar 2000; May 1998-Mar 1999; Sept-Nov 1997. Searched for and monitored cavity-nesting bird nests and measured vegetation associated with each nest in the Bitterroot Mountains, MT. Determined nest fates and estimated nesting success using the Mayfield method. Supervised field crew. Managed remote field camp.

Research assistant. Bush-Bush Wildlife Sanctuary, Nariva Swamp, Trinidad and Tobago. Aug-Oct 1999; Dec 1996-Jan 1997. Conducted continuous behavioral observations to determine troop dynamics of White-fronted Capuchin monkeys. Obtained baseline data on population dynamics and gathered initial measurements of their feeding ecology and group dispersal patterns. Supervised field crew. Managed remote field camp.

Wildlife assistant. Arizona Breeding Bird Atlas, Arizona Game and Fish Dept., Phoenix, AZ. Mar-Aug 1999. Inventoried bird species, confirmed breeding species, and summarized habitat types on 10 $mi^2$ survey blocks throughout Arizona.

Research assistant. Montana Cooperative Wildlife Research Unit, Missoula, MT. May 1997-Aug 1997. Searched for and monitored nests of passerines for Bitterroot Riparian Bird Project. Measured vegetation associated with each nest.

## Publications

Newlon, K.R., V.A. Saab, and J.J. Rotella. *Submitted.* Nest survival and nest-site selection of Lewis's Woodpecker in aspen riparian woodlands.

Saab, V.A., H.D.W. Powell, N.B. Kotliar, and K.R. Newlon. 2005. Variation in fire regimes of the Rocky Mountains: Implications for avian communities and fire management. Studies in Avian Biology. No. 30:76-96.

Hejl, S.J., K.R. Newlon, M.E. McFadzen, J.S. Young, and C.K. Ghalambor. 2002. Brown Creeper (*Certhia americana*). *In* The Birds of North America, No. 669 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, PA.

Elvey, C. and K. Newlon. 1998. *Eunectes murinus* (Green Anaconda) and *Phrynops giba* (Giba turtle). Predation. Herpetological Review 29(2):103-104.

## Professional Presentations

Saab, V.A., K.R. Newlon, and J.J. Rotella. 2007. Early birds do it better: Importance of timing for nest survival of Lewis's Woodpecker in burned and unburned habitats. Paper presentation. Annual meeting of the American Ornithologists' Union, Laramie, Wyoming.

Newlon, K.R., V.A. Saab, and J.J. Rotella. 2005. Factors influencing nest survival and productivity of Lewis's Woodpeckers breeding in aspen riparian woodlands. Paper presentation. Annual Conference of the Montana Wildlife Society-Northwest Section Meeting. Helena, Montana.

Newlon, K.R. and V.A. Saab. 2004. Factors influencing nest survival and productivity of Lewis's Woodpeckers breeding in aspen riparian woodlands. Poster presentation. Annual Conference of The Wildlife Society, Calgary, Alberta

Newlon, K.R. and V.A. Saab. 2003. Influences of livestock grazing on populations and habitats of Lewis's Woodpeckers and other migratory landbirds breeding in aspen riparian woodlands. Poster presentation. Cooper Ornithological Society Annual Meeting, Northern Arizona University.

## Reviewer

Wilson Journal of Ornithology, Northwestern Naturalist, US Forest Service Region 2 Technical Conservation Assessments

## Grants and Awards

- Challenge Cost Share Grant; Bureau of Land Management 2002 ($24,000)
- Wildlife Conservation and Restoration Program-Idaho Wildlife Grant; Idaho Department of Fish and Game 2002 ($10,500)

## Academic and Professional Affiliations

- Cooper Ornithological Society
- The Wildlife Society
- Montana Native Plant Society
- Montana Audubon
- Xerces Society
- Phi Beta Kappa

## Computer Software

- Geographic Positioning System (GPS): Garmin GPS76, Trimble GeoExplorer 3, and Trimble GeoXT
- Geographic Information System software: ArcView 3.x, ArcPad 7.0, and ArcGIS Desktop
- Program DISTANCE 5.0-distance sampling analysis software
- Program PRESENCE 2.0-occupancy estimation software
- Program MARK–survival estimation for marked animals
- SAS-statistical analysis software
- R-statistical computing environment
- Microsoft Access-database software

## Relevant Field Skills/Certifications

- Identification of flora and plant communities of the Rocky Mountain, Pacific Northwest, and Intermountain Regions
- Vegetation sampling techniques including Daubenmire, line-point intercept, frequency macroplots
- Identification of Western birds by sight and sound
- Wilderness First Responder